Claims

1. Reinforced thermoplastic polyamide moldingmaterials having simultaneously good surface quality, good flowability and good heat dimensional stability from polyamide compositions on basis of semi-crystalline semi-aromatic polyamides and copolyamides having a melting point of at least 240°C (A) and amorphous (co)polyamides (B), characterized in that said polyamide compositions comprise:

(B) 92-85 wt.-% of a semi-crystalline semi-aromatic (co)polyamide, formed by

(A_1) 50-80 mol-% of units of terephthalic acid based on the whole amount of total acids,

(A_2) 20-50 mol-% of units of isophthalic acid based on the whole amount of total acids, the sum total of units of dicarboxylic acids being 100 mol-%,

(A_3) 100 mol-% of units of at least one linear or branched aliphatic diamine having 4-25 carbon atoms, including hexamethylenediamine,

the percentage molar amount of phthalic acids in said semi-crystalline semi-aromatic (co)polyamide being nearly 100 mol-% and the percentage molar amount of diamines being nearly 100 mol-%,

(C) 8-15 wt.-% of a non-crystalline or low-crystalline (co)polyamide having a melting enthalpy of not more than 1 cal/g, formed by

(B_1) 55-100 mol-% of units of isophthalic acid based on the whole amount of total acids,

(B_2) 0-45 mol-% of units of terephthalic acid based on the whole amount of total acids,

(B_3) 100 mol-% of units of at least one linear or branched aliphatic or alicyclic diamine having 4-25 carbon atoms, especially hexamethylenediamine, based on the whole amount of present diamines

the percentage molar amount of phthalic acids in said semi-crystalline semi-aromatic (co)polyamide being nearly 100 mol-% and the percentage molar amount of diamines being about 100 mol-%,

(D) 25-70 wt.-% of a fibrous or particle type filler or mixtures thereof

(E) 0-20 wt.-% of a rubber-like polymer,

(E) up to 30 wt.-% of usual additives and processing aid agents based on the total amount of said components (A) to (D), if required.

2. Polyamide molding materials according to claim 1 characterized in that said semi-crystalline semi-aromatic (co)polyamides (A) have a melting point of about 280-350°C.

3. Polyamide molding materials according to claim 1 comprising 30-60 wt.-% of a fibrous or particle type filler or mixtures thereof, glass fibres being preferred as fillers.

4. Polyamide molding materials according to any one of claim 1 characterized in that said amount of said semi-crystalline semi-aromatic polyamide (A) is 90-85 wt.-% and said non-crystalline or low-crystalline (co)polyamide is comprised in an amount between 10-15 wt.-% into said polyamide composition.

5. Polyamide molding materials according to claim 4 characterized in that said semi-crystalline semi-aromatic (co)polyamide (A) comprises

   - 60-80 mol-% of terephthalic acid,
   - 20-40 mol-% of isophthalic acid,
   - 100 mol-% of hexamethylenediamine,

   the percentage molar amount of phthalic acids being about 100 % and the percentage molar amount of diamine being about 100 %.

6. Polyamide molding materials according to claim 1 characterized in that said non-crystalline low-crystalline (co)polyamide (B) consists of

   - 60-80 mol-% of isophthalic acid,
   - 20-40 mol-% of terephthalic acid,
   - 100 mol-% of hexamethylenediamine,

   the percentage molar amount of phthalic acids being about 100 % and the percentage molar amount of diamine being about 100 %.

7. Polyamide molding materials according to claim 1 comprising prepolymeric polyamides having the relative viscosity of 1.01-1.30 (as measured in 0.5% m-cresol solution) in amounts of 0.1-20 wt.-%, said prepolymeric polyamides being of same type or different type than said polyamide molding materials.

8. Polyamide molding materials according to claim 1 characterized in that said additives and processing aid agents are selected from the group consisting of chain capping agents, stabilizers, crystallization agents, plasticizers, dyes, pigments, antioxidants, flame retardants, antistatics, lubricants, mold release agents, conductive additives, and metal powders.

9. Polyamide molding materials according to claim 1 characterized in that they comprise up

to 6 wt.-% of carbon black as additive (E).

10. Method for production of polyamide molding materials according to claim 1 wherein said components (A) to (E) of said polyamide composition are mixed in the melt or dry state and if required, prepolymeric polyamides having defined viscosities and in amounts of 0.1 to 20 wt.-% of the polyamide matrix are mixed to said polyamide moldingmaterials in said melt or dry state and at processing temperatures of 250-380°C they are processed and discharged.

11. A method according to claim 10 characterized in that said molding materials are subjected to a post-condensation step.

12. The use of said polyamide moldingmaterials according to claim 1 for production of molded parts such as tubes, hollow bodies and other semi-finished products or finished articles, especially for production of supporting structures in motor vehicles.